Research program of Riga Technical University 2016-2020 – the roadmap to excellence

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Deputy Vice-Rector for Research


Project: „Development of institutional capacity of Riga Technical University”
Agreement No. 2015/0018/2DP/2.1.1.3.3/15/IPIA/VIAA/001(PVS ID 1921)
FOUNDED 1862

9 FACULTIES

34 INSTITUTES

134 STUDY PROGRAMS

MORE THAN 100,000 GRADUATES

15,000 STUDENTS

767 ACADEMIC STAFF

502 RESEARCHERS

13 RESEARCH CENTRES

RESEARCH FIELDS:

ENERGY

INFORMATION & COMMUNICATION

MATERIAL SCIENCE & CHEMISTRY

SAFETY & SECURITY

SMART NETWORKS
Structure of the program – areas of responsibility

**Faculties**
- Research programs of the faculties

**6 Research Platforms**
- Programs of the Research Platforms

**Administration**
- Project management system
- Support for publication activities
- System of technology transfer
- Development of infrastructure
Research programs of the faculties and the research platforms determine the direction of future development for research.

- **activity plan** for increase of **scientific capacity** and reaching of the strategic goals of RTU.

Reviewed by members of International Advisory Board and 16 external experts.
What characterizes scientific capacity?

A. Research quality/excellence
B. Economic and societal impact of research
C. Research environment/infrastructure and development potential
Research environment and infrastructure

Renewal, attracting foreign researchers

Targeted (focused) selection of the research topics and publishing

Research capacity and visibility

Collaboration and networking

Successful participation in projects and contract work

More funding

Faculties

- Research programs of the faculties

How to put reinforcing loop in action?
### Research platforms

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Research platforms

**Task?**
- inter-faculty, transdisciplinary research in the areas which are important for economy and society

**How will operate?**
- not new units but coordination mechanism
  - foundation – the council of coordinators

**Source of finance?**
- RTU internal project competition in the areas of platforms
- Contract work and international projects
- RTU Fund for support of research
Research directions of the platform «Energy and Environment»

a. Safety of power supply systems and optimum operational modes for the improvement of performance and economic return

b. Methods and technologies for the improvement of power and thermal energy generation, transmission, distribution and consumption efficiency

c. Methods and technologies for the promotion of renewables to increase the regional energy independence and reduce environmental impact

d. Climate technologies and environmental methods for circular economy

Flue gas condensers saving 10-15% of wood fuel

Technology for rapid bacteriological control of liquids and surfaces will allow to obtain test results in food industry, water supply industry, etc. considerably faster
Facilitation of successful participation in projects

1. Unified project management system

2. More efficient project application procedures:
   - better information about possibilities
   - better coordination of efforts during application preparation process
   - seminars and analysis of deficiencies (learning from mistakes)
   - better information about partners and visits to them

3. Assessment of research areas which have difficulties to rise funding with the aim to facilitate development
Support for increasing of the number and visibility of publications

1. Courses on writing publications and ethics of research in undergraduate and master's degree programs

2. Seminars and workshops, e-study courses on the publishing process and required software

3. Intensive work with editors of RTU journals and staff of RTU Publishing house
Valorization of research outcome

1. What do we understand by that?

- cooperation with the large domestic and international companies
- creation of new companies
- knowledge spill-overs for society - “opinion leaders” in certain areas and more active communication with society

2. The main activities:

- research of research needs of companies
- development of system for focused work with clients
- creation of collaboration networks – especially important for commercialization and start-up development
- use of potential provided by RTU Design Factory and students
- involvement of the Research Platforms in linking RTU competencies with needs of industry and society
- further development of “UseScience”

Source: presentation of Charles Bušmanis & Guntis Kulikovskis
1. Complete information on the available research equipment and services in Latvia and abroad - “UseScience”

2. Easy access – concentration, reservation system, transparent conditions of use

3. Targeted further development of infrastructure – «infrastructure investment plan »
Joining of Institute of Inorganic Chemistry strengthens positions of RTU in the area of material science

~1500 m$^3$ of equipment, furniture and documentation were moved

New laboratory premises in RTU, Ķīpsala

The former location in Salaspils
Development of RTU institutional capacity – implementation

• greater responsibility of faculties for implementation of the research programs
• linkage of the RTU Strategy, the faculty research programs and activity plans
• establishing of faculty research councils for coordination and management of the research activities
• active work of the research platforms
• systems for providing research process quality (including indicators, responsibility, etc.)
• improvement of cooperation with research organizations and companies
THANK YOU!

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